

REMARKS

Favorable consideration of this Application as presently amended and in light of the following discussion is respectfully requested.

After entry of the foregoing Amendment, Claims 1-18 are pending in the present Application. Claims 1 and 8 have been amended. Support for the amendment of Claims 1 and 8 can be found in the application and claims as originally filed. No new matter has been added.

By way of summary, the Official Action presents the following issues: Claims 6 and 15-17 stand objected to due to informalities; Claims 1-3, 8-11, and 17 stand rejected under 35 U.S.C. § 102 as being anticipated by Yukiko (Japanese Patent No. 2000-201134); Claims 4, 6, 7, 12, 14, and 15 stand rejected under 35 U.S.C. § 103 as being unpatentable over Yukiko in view of Wallace (U.S. Patent No. 6,473,467); Claims 5 and 13 stand rejected under 35 U.S.C. §103 as being unpatentable over Yukiko in view of Kitade (U.S. Patent No. 6,907,014)

Applicants appreciatively acknowledge the identification of allowable subject matter as recited in Claims 7, 15, 16, and 18.

OBJECTIONS DUE TO INFORMALITIES

The Official Action has objected to new Claims 15-17, presented in Preliminary Amendment filed September 21, 2005, on the informality that there was an existing Claim 15 and new Claims 15-17 require renumbering. Applicants have herein renumbered new Claims 15-17 to read Claims 16-18, respectively, and respectfully request the objection to new Claims 15-17 be withdrawn.

CLAIM OBJECTIONS

The Official Action has objected to Claims 6 and 16 as reciting the terminology “common signal,” noting that this terminology has no antecedent basis. Accordingly, Applicants have amended Claims 6 and 16 to recite “common pilot signal” as suggested in the Official Action. Accordingly, Applicants respectfully request that the objection to Claims 6 and 16 be withdrawn.

REJECTION UNDER 35 U.S.C. § 102

The Official Action has rejected Claims 1-3, 8-11, and 17 under 35 U.S.C. § 102 as being anticipated by Yukiko. The Official Action states that Yukiko discloses all of the Applicants’ claim limitations. Applicants respectfully traverse the rejection.

Applicants’ amended Claim 1 recites, *inter alia*, a channel structuring method, including:

a step of selecting from the n sub-carriers, a predetermined number of sub-carriers for insertion of common control channel signals and common pilot signals; and

a step of inserting a common control channel signal and a common pilot signal into the selected sub-carriers.

Yukiko describes a method of configuring a channel in a DS-CDMA environment. The method extends the band of an information symbol by way of a high speed diffusion code series. The band extended diffusion signal is transmitted by plural subcarriers having a frequency interval corresponding to n times the updating frequency of the diffusion code series. Plural channels are allocated to each of the plural subcarriers and plural pilot symbols are inserted into the information symbol series in each communication channel in a time-wise fashion for transmitting the diffusion signal.¹

¹ Yukiko at paragraphs 27-29; Fig. 5; Abstract.

Conversely, an exemplary embodiment of the Applicants' invention n sub-carriers are provided and a selection step selects from the subcarriers a predetermined number of subcarriers.

As shown in Fig. 1, common control channel signals and common pilot signals are inserted into the preselected subcarriers. In this way, it is possible to insert common pilot signals necessary for compensating for fading fluctuation in the case where OFTM is employed as a modulation scheme.

This insertion process enables the assignment of common control signals as appropriate for control purposes. Such configuration of the claimed embodiment provides efficient use of channels, not only in the time dimension, but also in the frequency dimension, when a plurality of sub-carriers are used for parallel transmission.² Yukiko does not disclose or suggest the selection of a predetermined number of subcarriers for insertion of common control channel signals and common pilot signals as recited in amended Claim 1, or any claim depending therefrom. Likewise, Claim 8 recites substantially similar limitations to that discussed above and this claim and any claim depending therefrom are allowable, at least for the same reasons. Accordingly, Applicants respectfully request that the rejection of Claims 1-3, 8-11, and 17 under 35 U.S.C. § 102 be withdrawn.

REJECTION UNDER 35 U.S.C. § 103

The Official Action has rejected Claims 4, 6, 7, 12, 14, and 15 under 35 U.S.C. §103 as being unpatentable over Yukiko in view of Wallace. The Official Action states that Yukiko discloses all of the Applicants' claim limitations, with the exception of providing a continuous common control channel. The Official Action cites Wallace as disclosing this more detailed aspect of the Applicants' invention, and states that it would have been obvious

² Specification at pages 11-12.

to one of ordinary skilled in the art at the time the invention was made to combine the cited references for arriving at the Applicants' claims. Applicants respectfully traverse the rejection.

As discussed above, Yukiko does not disclose or suggest all of the elements of the pending claims. Likewise, Wallace does not remedy the deficiencies discussed above. That is, Wallace does not disclose or suggest selecting from a plurality of sub-carriers a predetermined number of subcarriers for insertion of common control channel signals and common pilot signals. Therefore, Yukiko is not believed to anticipate, or render obvious, the subject matter defined by the present claims, as amended, when considered alone, or in combination with Wallace.

Accordingly, Applicants respectfully request that the rejection of Claims 4, 6, 7, 12, 14, and 15 under 35 U.S.C. § 103 be withdrawn.

The Official Action has rejected Claims 5 and 13 under 35 U.S.C. § 103 as being unpatentable over Yukiko in view of Kitade. The Official Action states that Yukiko discloses all of the Applicants' claim limitations with the exception of a periodic insertion of common control channel signals into selected subcarriers. The Official Action cites Kitade as describing this more detailed aspect of the Applicants' invention and states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the cited references for arriving at the Applicants' claims. Applicants respectfully traverse the rejection.

As discussed above, Yukiko does not disclose or suggest all of the elements of the pending claims. Likewise, Kitade does not remedy the deficiencies discussed above. That is, Kitade does not disclose or suggest selecting from a plurality of sub-carriers a predetermined number of subcarriers for insertion of common control channel signals and common pilot

signals. Therefore, Yukiko is not believed to anticipate, or render obvious, the subject matter defined by the present claims, as amended, when considered alone, or in combination with Kitade.

Accordingly, Applicants respectfully request that the rejection of Claims 5 and 13 under 35 U.S.C. § 103 be withdrawn.

CONCLUSION

As Applicants believe that the rejected claims include allowable subject matter, Applicants have chosen to pursue the subject matter of these canceled claims at the present time.

Consequently, in view of the foregoing amendment and remarks, it is respectfully submitted that the present Application, including Claims 1-19, is patently distinguished over the prior art, in condition for allowance, and such action is respectfully requested at an early date.

Respectfully submitted,

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